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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/686,581 | 10/11/2000 | Marc J. Ruymen | BST-2 | 4798 |

7590 07/14/2003

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[REDACTED] EXAMINER

NGUYEN, TU T

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2877

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/686,581 | RUYMEN ET AL. |
| | Examiner | Art Unit |
| | Tu T. Nguyen | 2877 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 April 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-32 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: _____ . |

Detailed Office Action

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6,10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billion (4,723,659) in view of Billion (4,634,881).

With respect to claim 1, Billion (4,723,659) ('659 hereinafter) discloses a system for inspecting an object. The system comprises: a light source, a scanning zone 4 (fig 1), a first detector having a first field of view larger than the cross-sectional area of the light beam (abstract), a control circuit 26 (fig 1).

'659 suggests using a second photosensor for carrying out specific sorting requirements (column 2, lines 54-60). However, '659 does not explicitly disclose the field of view of the second detector. Billion (4,634,881) discloses the field of view of the sensor which is about equal the light beam cross sectional area when an impurity entered the stream (column 6, lines 54-62). It would have been obvious to modify '659's second sensor with the field of view equal to the cross-sectional light beam to facilitate the sorting.

With respect to claim 2, '659 discloses a convey 3 (fig 1) for removing the test object from the scanning window.

With respect to claim 3, '659 discloses an air rejector (column 4, lines 5-10).

With respect to claim 4, '659 does not explicitly disclose a difference device. Since '659 discloses detecting a change of the output signals (abstract), it would have been obvious that '659 would have to have a difference device in order to detect the change of the output signal.

With respect to claims 5-6,19, a small hole located in front of the camera (column 3, lines 1-5) as disclosed in '659 would performs the same function as the claimed diaphragm.

With respect to claim 13, '881 discloses a vibrating table (column 3, lines 50-51).

With respect to claim 14, refer to discussion in claim 1 above. Further, refer to discussion in claim 3 for the air rejector.

With respect to claims 15-18,20, '659 does not disclose the claimed limitations as claimed in claims 15-18,20. However, it would have been a design choice to modify '659 by adding additional sorting control signals based on color of the products in order to sort the products by the color. Since the general conditions of the invention are disclosed by the prior art, adding additional sorting control signals based on color of the products in order to sort the

products by the color involves only routine skill in the art.

With respect to claim 10, '881 discloses a rotating multifaceted mirror 16 (fig 4) for scanning the object.

With respect to claim 11, '659 discloses a laser light source (column 1, line 58).

With respect to claim 12, '881 discloses using a multiple lights (abstract)

Claims 7-9,21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billion (4,723,659) in view of Billion (4,634,881) in further view of Lockett (4,260,062).

With respect to claim 7, '659 does not disclose a beam splitter. However, Lockett discloses using a beam splitter in front of the first and the second sensor (column 10, lines 15-30). It would have been obvious to modify '659 with Lockett to make the system more efficient.

With respect to claims 8-9, Lockett does not disclose a polarizing beam splitter. However, using a polarizing beam would have been known in the art. It would have been obvious to substitute Lockett's beam splitter with the known polarizing beam splitter to make the system more accurate.

With respect to claim 21, refer to discussion in claim 1 above. Further refer to discussion in claim 7 for the beam splitter.

With respect to claim 22, refer to discussion in claim 4 above.

With respect to claims 23-24, refer to discussion in claims 15-18 above.

With respect to claim 25-26, refer to discussion in claims 8-9 for the polarizing beam splitter.

With respect to claims 27, 29-30, '659 does not disclose the moving direction of the product. However, it would have been a design choice to modify '659 with different moving direction to test different objects with different shapes.

With respect to claim 28, refer to discussion in claim 13.

With respect to claim 31, refer to discussion in claim 3 above for the air ejector.

With respect to claim 32, refer to discussion in claim 15.

Response to Arguments

Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The

examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu T. Nguyen
Primary Examiner
Group Art Unit 2877

7/11/03